



HIF-8551

Service Manual

- HIF-8551

SERVICE MANUAL

WARNING :

FOR CONTINUED SAFETY THE FOLLOWING PRECAUTIONS TO BE FOLLOWED DURING SERVICING.

1. MAKE SURE POWER CORD IS DISCONNECTED BEFORE REPLACING ANY PARTS.
2. REPLACE WITH SAME TYPE, CRITICAL PARTS WITH ! MAKE ON THIS DIAGRAM.
3. THE FOLLOWING TEST MUST BE IMPLEMENTED AFTER EACH REPAIR BEFORE RETURNING IT TO CUSTOMER. USE AN OHM-METER TO MEASURE THE F.C. RESISTANCE FROM BOTH A.C. CONDUCTORS TO ANY EXPOSED METALLIC PARTS SUCH AS A SCREW HEAD, METAL INLAYS ETC. THE RESISTANCE MEASURED TO BE 10 MEGAOHMS MINIMUM.

TECHNICAL SPECIFICATION

Power output : 2 Watts RMS per channel
into 8 ohms.

Frequency response : 40Hz - 15KHz

BASS : 100Hz +/- 10 db
TREBLE : 10KHz +/- 10 db

TUNER SECTION

FM Section : 88MHz - 108MHz
AM Section : 540KHz - 1600KHz

In keeping with our policy of continually improving our service, and the technical quality of our products. We reserve the right to change component types, manufacturers, sources of supply of technical specification at any time.

CASSETTE SECTION

Tape : Cassette type
Tape speed : 4.75 cm per second
Tracks : 2 Tracks stereo
Frequency response : 125Hz - 8KHz

CD PLAYER SECTION

Frequency Response : 40Hz - 10KHz
S/N Ratio : 60db
Channel Separation : 40db

ALIGNMENT INSTRUCTIONS (RADIO)

CAUTION : Use isolation transformer or observe polarity when connecting test equipment. Connect low sides of generator and indicator to ground unless specified otherwise. Maintain line voltage at 230V AC. 15-minute warm-up period. Use only enough generator output to obtain suitable indication.

INSTRUMENTS REQUIRED : AM IF ALIGNMENT GENERAL :

AM & FM Single Generator Set output of signal generator no higher than necessary to obtain an output reading.
Set function switch to LW or AM.

AM & FM Single Generator Set Volume control to reference output.
Set Tone control at center position.

AC VTVM Oscilloscope Fashion loop of several turns of wire and radiate signal into loop of receiver.

SIGNAL GENERATOR	RADIO SETTING	INDICATOR	ADJUSTMENT	REMARKS
455KHz 400Hz Modulation	Tuning to 1620KHz (High end)	VTVM across Speaker Jack	T101	Adjust for maximum. Repeat until no further improvement is noted.

AM RF ALIGNMENT :

SINGLE GENERATOR	RADIO SETTING	INDICATOR	ADJUSTMENT	REMARKS
520KHz 400Hz Modulation	Tuning to 520KHz (Low end)	VTVM across Speaker Jack	L107	Adjust for maximum
1620KHz 400Hz Modulation	Tuning to 1620KHz (High end)		VC101-0	Adjust for maximum
600KHz	600KHz		BAR ANT.	Adjust for maximum
1400KHz	1400KHz		VC101-A	Adjust for maximum

FM RF ALIGNMENT GENERAL :

Connect Generator across antenna terminals.

Adjustment of coils should not be attempted unless the coil is deformed or replaced.

Set function switch to FM.

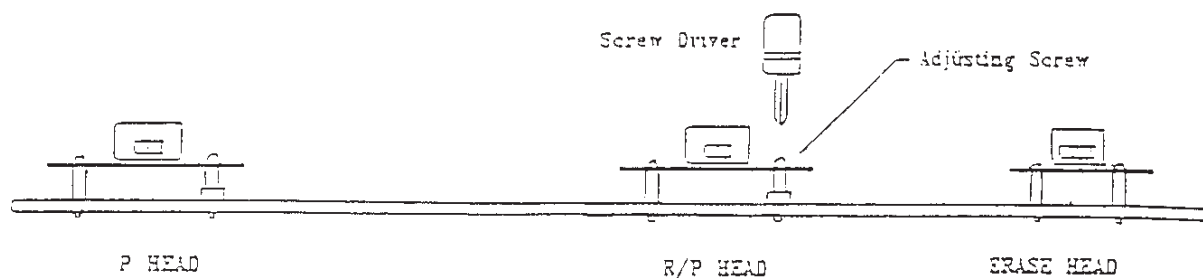
Set volume control to reference output.

Set Bass & Treble control to center.

SINGLE GENERATOR	RADIO SETTING	INDICATOR	ADJUSTMENT	REMARKS
88MHz 1000Hz Modulation	Tuning to 88MHz (Low end)	VTVM across Speaker Jack	L103	Adjust for maximum
108MHz 1000Hz Modulation	Tuning to 108MHz (High end)		VC101-FO	Adjust for maximum
90MHz	90MHz		L102	Adjust for maximum
106MHz	106MHz		VC101-FA	Adjust for maximum

ALIGNMENT INSTRUCTIONS FOR CASSETTE TAPE DECK

Figure as diagram :

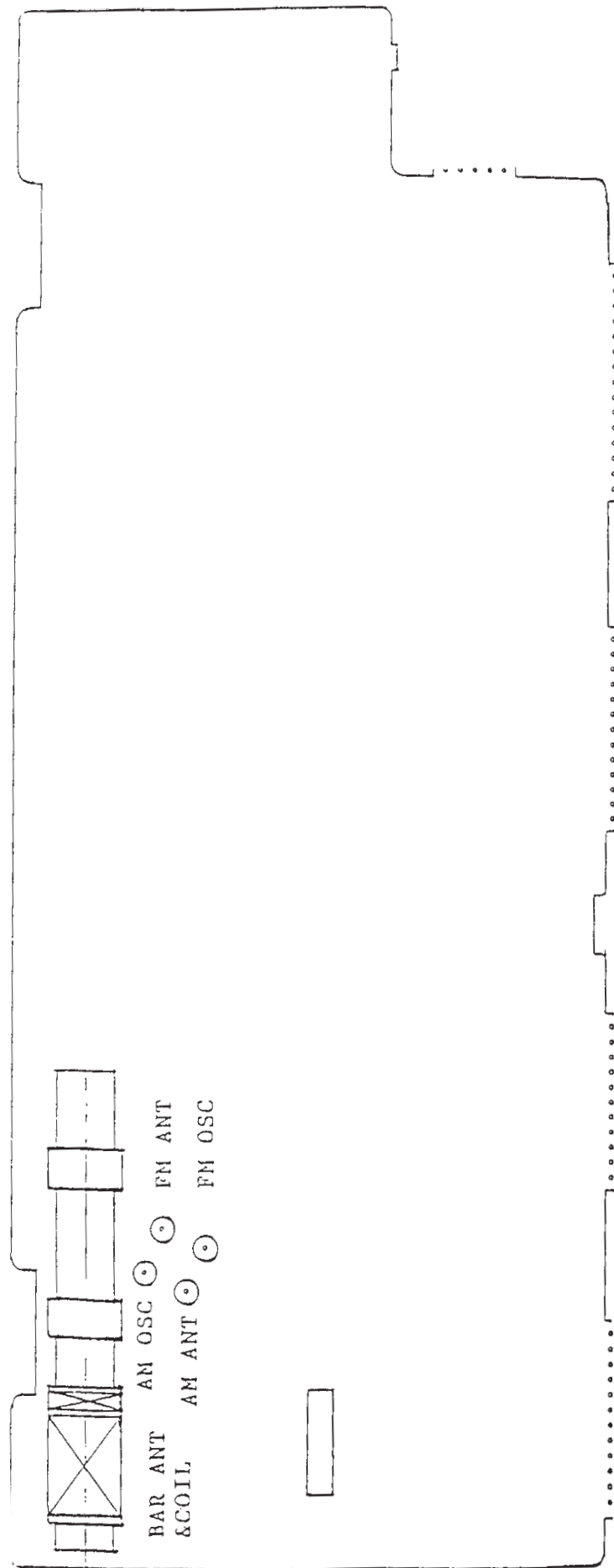


HEAD AZIMUTH :

WHILE PLAYING TEST TAPE (6K3Hz) ADJUST AZIMUTH SCREW ON THE LEFT SIDE OF THE TAPE HEAD FOR MAXIMUM OUTPUT FOR BOTH L/R CHANNEL. BY SAME METHOD ADJUST P HEAD AZIMUTH.

INSTRUMENT REQUIRED :

- (1) AC VOLTMETER
- (2) FREQUENCY COUNTERS

MAJOR ADJUSTMENT LOCATION BOTTOM VIEW

ELECTRICAL PARTS LIST (2W)

REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
TUNER CIRCUIT		C140	223 M/C
INTERGRATED CIRCUIT		C141	222 M/C
IC101	TA8122AN	C142	222 M/C
DIODE		C120	470P C/C
D101	IS2638	C121	10u/25V E/C
LD101	RED LED Ø3mm	C129	683 M/C
ZD101	3V6	C105	15P C/C
IFT		C106	4P C/C
T101	510011	C119	0.47u/50V E/C
COIL		C108	203 C/C
L101	0.8x4.5x5.5T	C114	203 C/C
L102	0.8x4.5x3.5T	C111	3P C/C
L103	0.8x5.0x2.5T	RESISTOR 1/4W ±10%	
L105	AM ANT. ASS'Y Ø10x80mm MWV 100:8	R101	100K
L107	M2347	R102	47K
VARIABLE CAPACITOR		R106	470Ω
P.V.C.	RG204A-06H R140	R152	220Ω
CERAMIC FILTER		R109	10K
CF101	SFE10.7MAS	R110	10K
CR102	CSB456	R107	22K
CF103	SFU455B	R104	100K
CF104	SFE10.7MAS	R103	10Ω
CR101	CDA10.7	R/P CIRCUIT	
BAND SWITCH		INTERGRATED CIRCUIT	
SW101	63D01 G6	IC201	TA7417AP
FUNCTION SWITCH		IC202	LA3161
SW102	63D01 G6	TRANSISTOR	
CONDENSOR		Q201	2SC945
C101	10P C/C	CONDENSOR	
C102	25P C/C	C223	4u7/50V E/C
C104	203 C/C	C230	22u/16V E/C
C112	18P C/C	C209	47u/10V E/C
C113	102 C/C	C215	222 M/C
C107	20P C/C	C213	472 M/C
C122	33u/16V	C212	47u/16V E/C
C123	104 C/C	C216	222 M/C
C135	220u/10V E/C	C214	472 M/C
C136	104 C/C	C207	473 M/C
C133	223 M/C	C208	473 M/C
C134	223 M/C	C211	47u/10V E/C
C131	4u7/50V E/C	C203	0.47u/50V E/C
C132	4u7/50V E/C	C204	0.47u/50V E/C
C125	153 M/C	C216	4u7/50V E/C
C123	104 C/C	C217	4.7u/50V E/C
C126	153 M/C	C218	4.7u/50V E/C
C127	104 C/C	C219	4u7/50V E/C
C128	104 C/C	C231	47u/16V E/C

ELECTRICAL PARTS LIST (2W)

REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
C224	4u7/50V E/C	R254	150K
C210	47u/10V E/C	R259	390Ω
C234	153 M/C	R255	6K8
C235	153 M/C	R256	6K8
C236	272 M/C	R251	47Ω
C237	272 M/C	R252	47Ω
C232	100u/10V E/C	TONE & TREBLE CIRCUIT	
C259	4u7/50V E/C	TRANSISTOR	
C260	4u7/50V E/C	Q331	2SC945
C257	153 M/C	Q332	2SC945
C258	153 M/C	CONDENSOR	
C253	4u7/50V E/C	C301	152 M/C
C254	4u7/50V E/C	C302	152 M/C
C255	100u/10V E/C	C303	103 M/C
C256	100u/10V E/C	C304	103 M/C
C251	102 M/C	C305	103 M/C
C261	100u/10V E/C	C306	103 M/C
C252	102 M/C	C306	104 M/C
OSC COIL		C307	104 M/C
T201	AC157	C331	104 C/C
RESISTOR 1/4W ±10%		C332	104 C/C
R217	15K	C339	100u/10V E/C
R221	10K	C333	4u7/50V E/C
R233	2K2	C334	4u7/50V E/C
R211	68Ω	RESISTOR 1/4W ±10%	
R212	68Ω	R339	220Ω
R207	2K7	R303	100K
R208	2K7	R304	100K
R215	8K2	R305	2K7
R216	8K2	R306	2K7
R209	68K	R309	5K6
R210	68K	R310	5K6
R203	2K7	R331	1M
R205	220K	R332	1M
R206	220K	R333	6K8
R216	15K	R334	6K8
R204	2K7	R335	680Ω
R222	10K	R336	680Ω
R231	2K7	R337	1K
R214	470Ω	R338	1K
R237	560Ω	R391	10K
R232	10K	R392	10K
R238	47Ω	R393	2K2
R213	2Ω2	R394	2K2
R257	10K	R397	100K
R258	10K	R398	100K
R253	150K	R399	1K

ELECTRICAL PARTS LIST (2W)

REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
D663	IN4148	R663	100K
D664	IN4148	R643	100K
LD671	LED Ø3mm RED	R632	10K
D632	IN4148	R641	5K6
SENSOR RPM-676CBR-L		R642	5K6
TACT SWITCH		R643	100K
SW631	4.3mm	R644	100K
SW632	4.3mm	R645	33K
CONDENSOR		R646	2Ω2
C601	47u/10V E/C	R647	2Ω2
C602	102 C/C	R699	100Ω
C603	102 C/C	R635	470Ω
C638	4u7/50V E/C	R671	56K
C631	1u/50V E/C	R672	56K
C632	1u/50V E/C	R673	5K6
C640	100u/10V E/C	R674	5K6
C639	220u/10V E/C	R675	56K
C633	1u/50V E/C	R662	1M
C634	1u/50V E/C	R664	1M
C635	1u/50V E/C	R663	1M
C636	1u/50V E/C	R665	10K
C614	10u/25V E/C	R674	5K6
C637	2u2/50V E/C	R676	1K
C699	47u/10V E/C	R666	680Ω
C671	10u/25V E/C	HANDSET CIRCUIT	
C672	10u/25V E/C	INTERGRATED CIRCUIT	
C662	203 C/C	IC501	TC9148P
C663	104 C/C	TRANSISTOR	
C663	203 C/C	Q501	2SA733
C664	104 C/C	Q502	2SC945
C665	104 C/C	DIODE	
C666	10u/25V E/C	D501	IN4148
RESISTOR 1/4W ±10%		D502	IN4148
R601	100K	LD501	3Ø RED
R602	2K2	INFRA RED LED - TLN105	
R603	10K	TACT SWITCH	
R604	33K	SW501-SW510	4.3mm
R670	680Ω	CONDENSOR	
R669	10K	CR501	KBR 455B
R637	10K	R502	100P C/C
R634	33K	C503	100P C/C
R638	10K	C508	47u/10V E/C
R639	33K	DC SUPPLY CIRCUIT	
R635	100K	TRANSISTOR	
C638	1u/50V E/C	Q411	2SB882
C637	2u2/50V E/C	Q431	2SC2001
R631	10K	Q491	2SC945

ELECTRICAL PARTS LIST (2W)

REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
DIODE		RESISTOR 1/4W ±5%	
D431-D434	1N4002	R431	10Ω
ZD441	9V1	R437	1K
ZD431	11V	R491	47K
D491	1N4148	R492	4K7
CONDENSOR		R493	10K
C431-C434	203 C/C	R442	1K 1/2W
C436	203 C/C		
C437	100u/10V E/C		
C491	100u/10V E/C		
C435	2200u/25V E/C		
C438	220u/10V E/C		
C441	100u/10V E/C		

(2W) TRANSISTOR VOLTAGE TABLE

TRANSISTOR	E	C	B
Q202 2SC945	0	10.4	0
Q331 2SC945	0.1	3.9	0.8
Q332 2SC945	0.2	3.8	0.8
Q501 2SC945	3.1	0	3.1
Q502 2SA733	0.3	3.1	0
Q601 2SC945	0	0.1	0.6
Q632 2SC945	0	9.9	0
Q631 2SC945	0	9.9	0
Q668 2SC945	0	0	0
Q901 2SC945	0	0.7	0
Q902 2SC945	0	0	0.7
Q903 2SC945	0	0.7	0
Q904 2SC945	0	0	0.7
Q905 2SA733	0	0	0
Q491 2SC945	0	0	0.6
Q431 2SC2001	10.4	14.3	11.1
Q662 2SB772	14.9	14.9	14.2
Q661 2SC945	0	0.1	0.7
Q411 D882	0	0.1	0.76
Q643 2SC945	0	0	0.23
Q644 2SC945	0	0	0.23
Q801 2SC945	4.99	4.99	0
Q802 2SC945	4.97	4.98	0
Q803 2SC945	4.97	4.98	0
Q804 2SC945	4.94	4.94	0
Q805 2SC945	4.96	4.96	0
Q806 2SC945	4.95	4.95	0
Q671 2SC945	0	5.5	0.5
Q672 2SC945	0	0	0.6
Q673 2SC945	0	4.2	0.2

(2W) TRANSISTOR VOLTAGE TABLE

TRANSISTOR	E	C	B
Q202 2SC945	0	10.4	0
Q331 2SC945	0.1	3.9	0.8
Q332 2SC945	0.2	3.8	0.8
Q501 2SC945	3.1	0	3.1
Q502 2SA733	0.3	3.1	0
Q601 2SC945	0	0.1	0.6
Q632 2SC945	0	9.9	0
Q631 2SC945	0	9.9	0
Q668 2SC945	0	0	0
Q901 2SC945	0	0.7	0
Q902 2SC945	0	0	0.7
Q903 2SC945	0	0.7	0
Q904 2SC945	0	0	0.7
Q905 2SA733	0	0	0
Q491 2SC945	0	0	0.6
Q431 2SC2001	10.4	14.3	11.1
Q662 2SB772	14.9	14.9	14.2
Q661 2SC945	0	0.1	0.7
Q411 D882	0	0.1	0.76
Q643 2SC945	0	0	0.23
Q644 2SC945	0	0	0.23
Q801 2SC945	4.99	4.99	0
Q802 2SC945	4.97	4.98	0
Q803 2SC945	4.97	4.98	0
Q804 2SC945	4.94	4.94	0
Q805 2SC945	4.96	4.96	0
Q806 2SC945	4.95	4.95	0
Q671 2SC945	0	5.5	0.5
Q672 2SC945	0	0	0.6
Q673 2SC945	0	4.2	0.2

ELECTRICAL PARTS LIST (2W)

REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
R400	1K		TAPE CONTROL CIRCUIT
	ROTARY RESISTOR		TRANSISTOR
VR301	100KBx2 IC. L=300mm	Q901	2SC945
VR302	100KBx2 IC. L=300mm	Q902	2SC945
VR304	100kbx1 IC. L=300mm	Q903	2SC945
	AMP. CIRCUIT	Q904	2SC945
	INTERGRATED CIRCUIT	Q905	2SA733
IC401	KA2206		DIODE
	CONDENSOR	D901	IN4002
C403	4u7/50V E/C203 C/C		RESISTOR
C404	4u7/50V E/C	R901	100K
C405	100u/10V E/C	R902	22K
C406	100u/10V E/C	R903	100K
C407	100u/10V E/C	R904	22K
C408	100u/10V E/C	R905	22K
C409	104 M/C	R906	22K
C410	104 M/C	R907	220K
C411	470u/10V E/C	R908	470Ω
C412	470u/10V E/C	R906	5K6
C413	100u/16V E/C		SEMI FIXED
C414	470u/16V E/C	SVR901	Ø8 3K
	RESISTOR 1/4W ±10%		REMOTE CIRCUIT
R411	220Ω		INTERGRATED CIRCUIT
R412	220Ω	IC601	TC9149P
	TACT SWITCH	IC602	TC9153AP
SW661	4.3mm	IC603	TC4013
	CD CONTROL CIRCUIT		TRANSISTOR
	TRANSISTOR	Q632	2SC945
Q802	2SC945	Q601	2SC945
Q803	2SC945	Q631	2SC945
Q804	2SC945	Q663	2SC945
Q805	2SC945	Q664	2SC945
Q806	2SC945	C671	2SC945
Q807	2SC945	Q672	2SC945
	LCD	Q673	2SC945
LD801	SD552UPF2P(TRULY)	Q662	2SB772
	LIGHT LAMP	Q661	2SC945
LP801	8V60ma		DIODE
	TACT SWITCH	ZD601	5V6
SW1-SW7	4.3mm	D661	IN4148
	RESISTOR	D662	IN4148
R802	100K	D665	IN4148
R803	100K	D631	IN4148
R804	100K	D671	IN4148
R805	100K	D672	IN4148
R806	100K	D673	IN4148
R807	100K	D666	IN4148

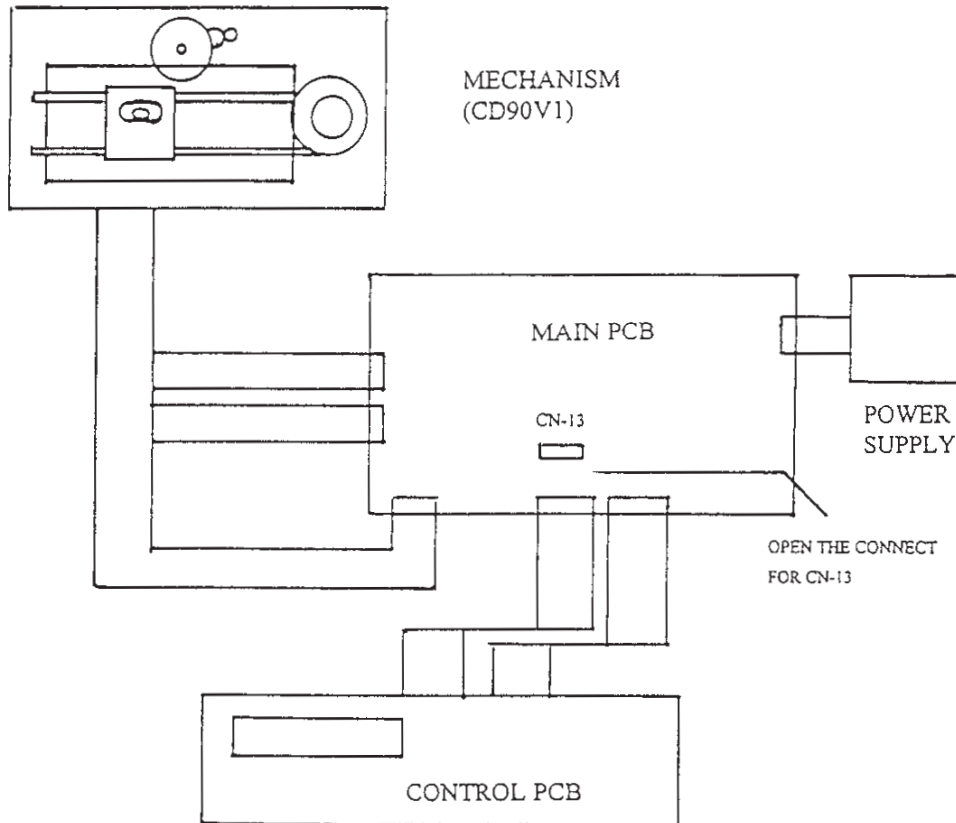
ADJUSTMENT PROCEDURES

1. FIRST STAGE MODE
2. TEST MODE SETTING
3. SWITCHING ON THE POWER
4. PLL ADJUSTMENT
5. CN13 LID SWITCH ON
6. PLAY/PAUSE SWITCH ON
7. E/F BALANCE ADJUSTMENT

FIRST STAGE MODE

The PCB main assembly is connected with various connectors as illustrated below.

NOTE : At this time, the CN-13 (Lid switch) is left in the open condition.



The semi-fixed variable resistors are all set to the center position.

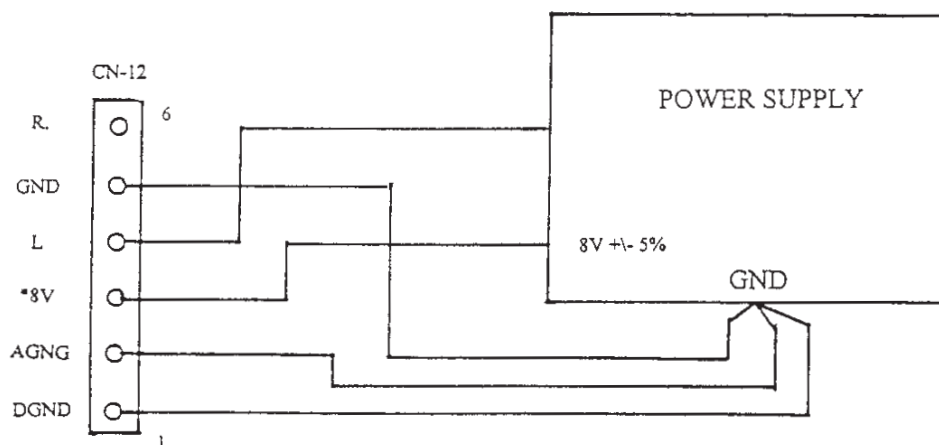
TEST MODE SETTING

Connect TCN3 with a short wire (connect Pin 16 of IC105 to ground)

NOTE : When the adjustment has been completed, leave TCN3 open.

SWITCHING ON THE POWER

Use a power supply which can satisfy supply voltage of $5V \pm 5\%$ for V_{cc} .

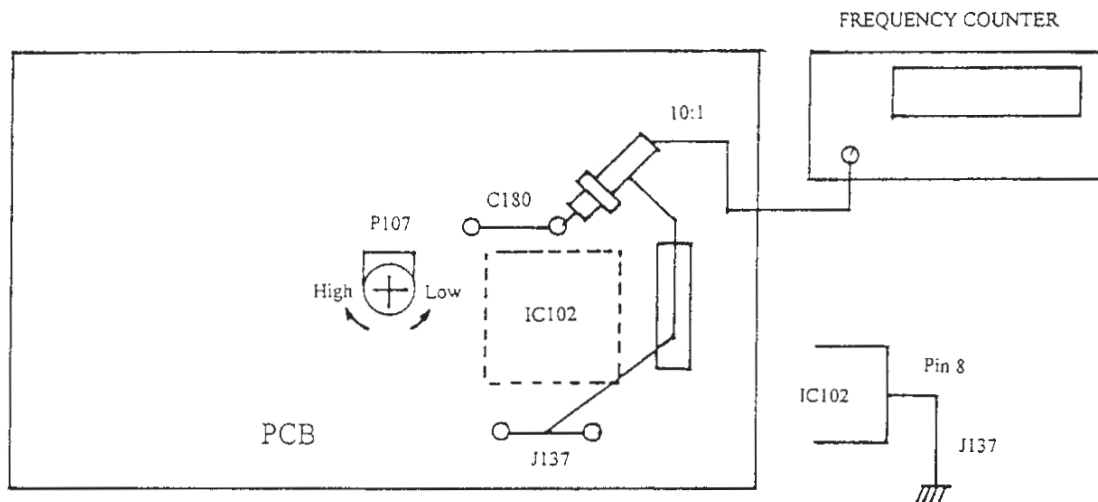


When the power is switched on in the mode, the display will show 13 77 77.

PLL ADJUSTMENT

- . Attach a 10:1 probe to the frequency counter.
- . Connect the probe ground to the test ground J137, and connect the hot side of the probe to the C180 PCK point.
- . Adjust P104 so that the reading of the frequency counter is within $4.3218\text{MHz} \pm 5\text{KHz}$.

Note : Connect the J136 (HF) to ground.



When the adjustment has been completed, disconnect the prob.

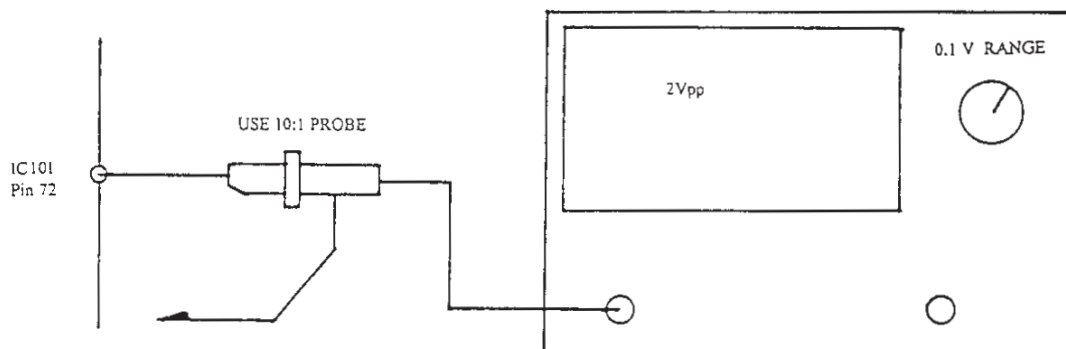
CN-13 LID SW ON

- . Place a test disc on the mechanism and perform chunking with a magnet.
(Use the SONY YEDS-18 or YEDS-43 test disc)
- . Short circuit CN-13 which is now in the open condition.
- . Short circuit CN-13 will move the pick-up in the direction of the inner tracks until it touch and switches on the inner switch.
- . When the pick-up switches on the inner switch, it enters the focus search operation, reads the TOC information, then the disc stops.

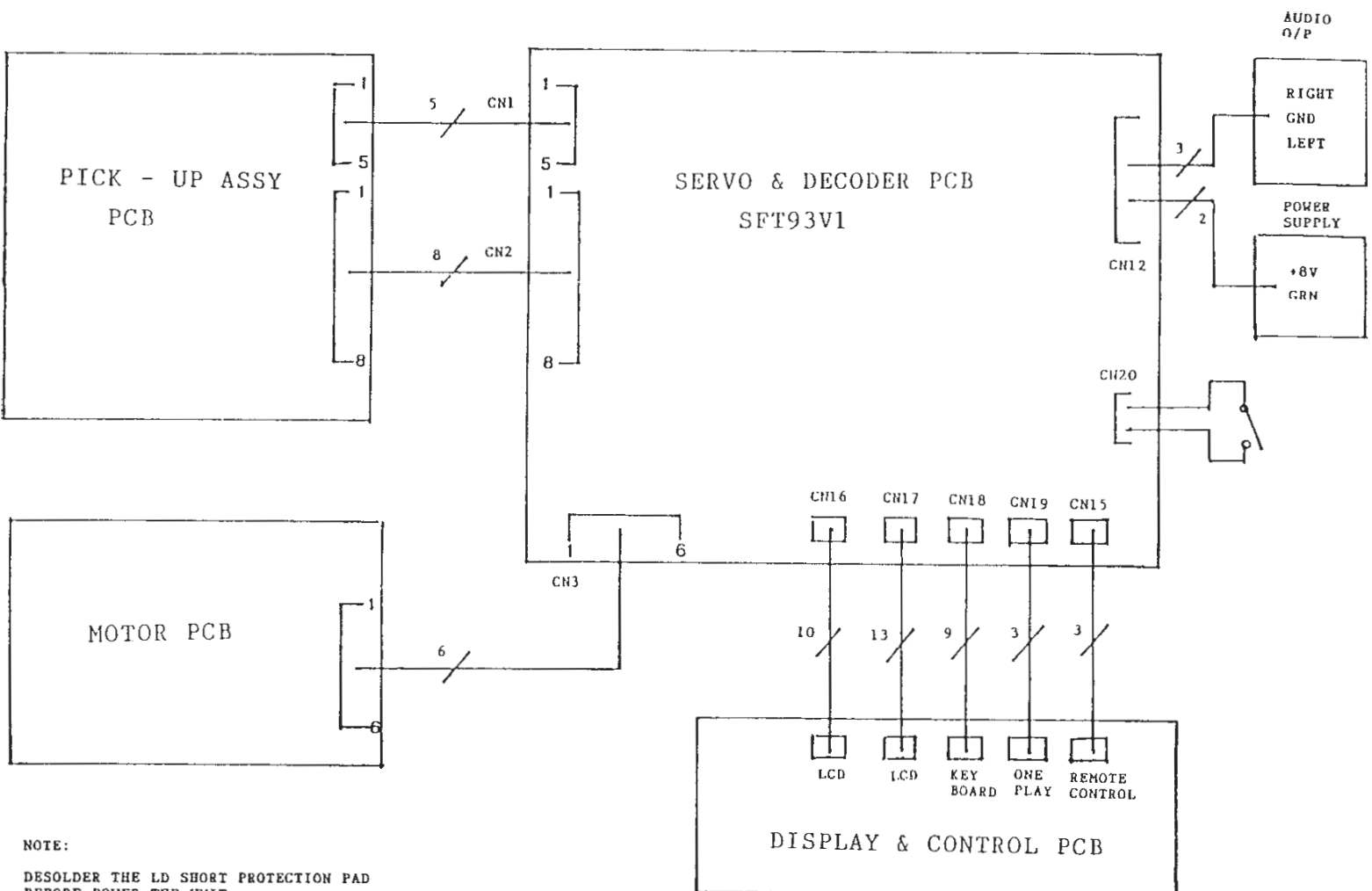
PLAY/PAUSE SWITCH ON

- . After pressing the PLAY/PAUSE switch, check that the focus and the tracking servo are switched on, and that the eye pattern is output from IC101 Pin 72.

(The eye pattern level is normally about 2 Vp-p.)

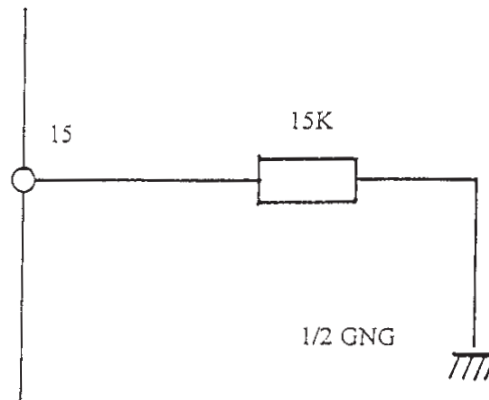


CD WIRING DIAGRAM



E/F BALANCE ADJUSTMENT

- . Connect a 15K ohm resistor to Pin 15 of IC101 and 1/2 ground (J102) and detach the tracking serve.

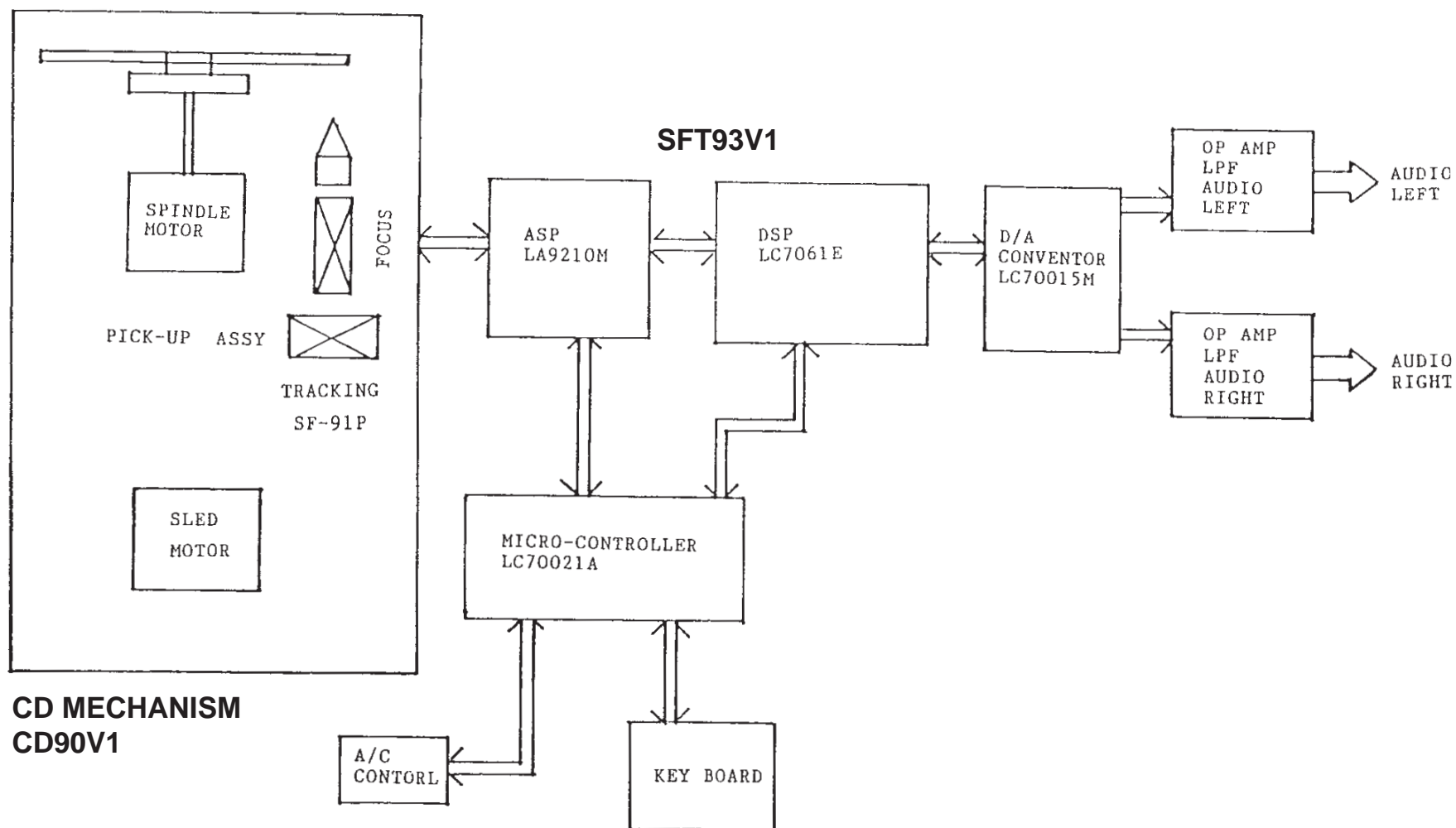


- . Connect the oscilloscope probe (10:1) to TE measurement point IC101 Pin 7 (TEAO) and 1/2 ground and check whether the TE waverorm moves up and down when P101 E/F balance variable resistor is rotated clockwise and countclockwise.

NOTE : Set oscilloscope DC input

- . When the check has been completed, turn P101 and return a position at which the TE waveform appears to be vertically symmetrical (0Vdc).
- . When the adjustment has been completed, disconnect the resistor.

CD PLAYER BLOCK DIAGRAM



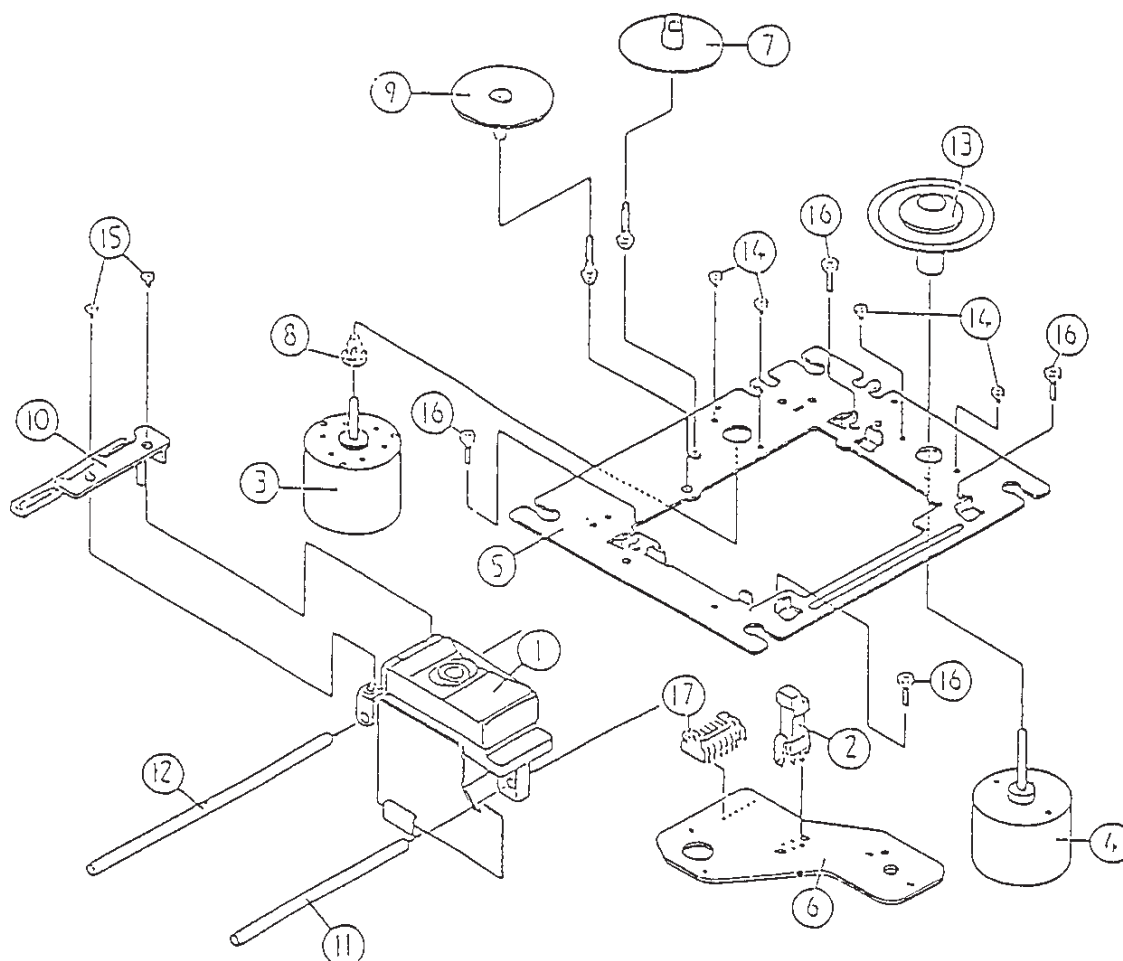
REFERENCE	PART NO.	DESCRIPTION	QTY.
=====	=====	=====	=====
C159	09-47619-055	CAP ELE 47U 16V M	1
C160	08-33124-133	CAP CER 330P 50V K	1
C199	08-10224-133	CAP CER 1000P 50V K	1
C301	08-22394-133	CAP CER 0.022U 50V K	1
C302	09-47619-055	CAP ELE 47U 16V M	1
C303	09-10711-055	CAP ELE 100U 10V M	1
C304	09-47619-055	CAP ELE 47U 16V M	1
C305	09-47619-055	CAP ELE 47U 16V M	1
C306	09-10711-055	CAP ELE 100U 10V M	1
C307	11-33324-023	CAP MLY 0.033U 50V K	1
C308	11-33324-023	CAP MLY 0.033U 50V K	1
C309	09-10619-055	CAP ELE 10U 16V M	1
C310	09-10619-055	CAP ELE 10U 16V M	1
C311	11-10224-023	CAP MLY 1000P 50V K	1
C312	11-10224-023	CAP MLY 1000P 50V K	1
C313	11-10224-023	CAP MLY 1000P 50V K	1
C314	11-10224-023	CAP MLY 1000P 50V K	1
C315	09-10619-055	CAP ELE 10U 16V M	1
C316	09-10619-055	CAP ELE 10U 16V M	1
C317	08-10224-133	CAP CER 1000P 50V K	1
C318	08-10224-133	CAP CER 1000P 50V K	1
C319	09-22711-055	CAP ELE 220U 10V M	1
C320	09-22711-055	CAP ELE 220U 10V M	1
C322	08-10314-133	CAP CER 0.01U 50V M	1
CN1	20-40001-105	CON JST 5P	1
CN12	20-40001-106	CON JST 6P	1
CN13	20-40001-102	CON JST 2P	1
CN15	20-40001-103	CON JST 3P	1
CN16	20-40001-110	CON JST 10P	1
CN17	20-40001-113	CON JST 13P	1
CN18	20-40001-109	CON JST 9P	1
CN2	20-40001-108	CON JST 8P	1
CN3	20-40001-106	CON JST 6P	1
D102	06-00005-040	DIODE GMB01-BT	1
D103	06-00005-040	DIODE GMB01-BT	1
D104	06-00005-040	DIODE GMB01-BT	1
D105	06-00005-040	DIODE GMB01-BT	1
D106	06-00005-040	DIODE GMB01-BT	1
D107	06-00005-040	DIODE GMB01-BT	1
D108	06-00005-040	DIODE GMB01-BT	1
D109	06-00005-040	DIODE GMB01-BT	1
D203	06-00005-040	DIODE GMB01-BT	1
D204	06-00005-040	DIODE GMB01-BT	1
D301	06-5R102-070	ZENER GEA5.1X	1
IC101	04-09210-000	IC LA9210M	1
IC102	04-07861-000	IC LC7861NE	1
IC103	04-06531-000	IC LA6531	1
IC104	04-06531-000	IC LA6531	1
C105	04-70803-000	IC708031A	1
C106	04-78815-000	IC LC78815MF	1

REFERENCE	PART NO.	DESCRIPTION	QTY.
=====	=====	=====	=====
IC107	04-06458-000	IC LA6458S	1
IC108	04-07805-030	IC 78M05T	1
JUMPER	32-01060-100	JMP 10MM SINGLE	30
JUMPER	32-01060-050	JMP 5MM SINGLE	50
P101	17-40000-682	VR 6K8 (B)	1
P104	17-40000-474	VR 470K (B)	1
PC801	48-00293-001	BLN PCB SFT93V1 MAIN	1
Q101	06-01317-000	TR 2SA1317-S-AC	1
Q102	06-01346-000	TR SSA1346-AC	1
Q103	06-01346-000	TR 2SA1346-AC	1
Q105	06-01346-000	TR 2SA1346-AC	1
Q106	06-03400-000	TR 2SC3400-AC	1
Q111	06-03330-000	TR 2SC3330-S-AC	1
Q112	06-03330-000	TR 2SC3330-S-AC	1
Q113	06-01936-000	TR 2SD1936-T-AC	1
Q114	06-01936-000	TR 2SD1936-T-AC	1
R101	13-10031-012	RES CARB 10 1/6W J	1
R102	13-10331-012	RES CARB 10K 1/6W J	1
R103	13-33331-012	RES CARB 33K 1/6W J	1
R104	13-10231-012	RES CARB 1K 1/6W J	1
R105	13-10231-012	RES CARB 1K 1/6W J	1
R106	13-33331-012	RES CARB 33K 1/6W J	1
R107	13-15231-012	RES CARB 15K 1/6W J	1
R108	13-47131-012	RES CARB 470 1/6W J	1
R109	13-10231-012	RES CARB 1K 1/6W J	1
R110	13-10331-012	RES CARB 10K 1/6W J	1
R111	13-24231-012	RES CARB 2K4 1/6W J	1
R112	13-22231-012	RES CARB 2K2 1/6W J	1
R115	13-12231-012	RES CARB 1K2 1/6W J	1
R116	13-15431-012	RES CARB 150K 1/6W J	1
R117	13-12531-012	RES CARB 1.2M 1/6W J	1
R118	13-10431-012	RES CARB 100K 1/6W J	1
R119	13-39431-012	RES CARB 390K 1/6W J	1
R120	13-12431-013	RES CARB 120K 1/6W J	1
R121	13-10331-012	RES CARB 10K 1/6W J	1
R122	13-12531-012	RES CARB 1.2M 1/6W J	1
R123	13-12231-012	RES CARB 1K2 1/6W J	1
R124	13-22331-012	RES CARB 22K 1/6W J	1
R125	13-47331-012	RES CARB 47K 1/6W J	1
R126	13-68131-012	RES CARB 680 1/6W J	1
R127	13-10431-012	RES CARB 100K 1/6W J	1
R129	13-47231-012	RES CARB 4K7 1/6W J	1
R130	13-33231-012	RES CARB 3K3 1/6W J	1
R131	13-22331-012	RES CARB 22K 1/6W J	1
R132	13-10431-012	RES CARB 100K 1/6W J	1
R133	13-10331-012	RES CARB 10K 1/6W J	1
R134	13-20431-012	RES CARB 200K 1/6W J	1
R136	13-22231-012	RES CARB 2K2 1/6W J	1
R137	13-10431-012	RES CARB 100K 1/6W J	1
R138	13-56131-012	RES CARB 560 1/6W J	1

REFERENCE	PART NO.	DESCRIPTION	QTY.
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R139	13-15431-012	RES CARB 150K 1/6W J	1
R140	13-10531-012	RES CARB 1M 1/6W J	1
R141	13-82331-012	RES CARB 82K 1/6W J	1
R142	13-56331-012	RES CARB 56K 1/6W J	1
R143	13-12431-012	RES CARB 120K 1/6W J	1
R144	13-12231-012	RES CARB 1K2 1/6W J	1
R145	13-56331-012	RES CARB 56K 1/6W J	1
R146	13-91331-012	RES CARB 91K 1/6W J	1
R147	13-82231-012	RES CARB 8K2 1/6W J	1
R149	13-18331-012	RES CARB 18K 1/6W J	1
R150	13-22331-012	RES CARB 22K 1/6W J	1
R151	13-33431-012	RES CARB 220K 1/6W J	1
R158	13-10431-012	RES CARB 100K 1/6W J	1
R159	13-91331-012	RES CARB 91K 1/6W J	1
R166	13-33431-012	RES CARB 330K 1/6W J	1
R167	13-39531-012	RES CARB 3.9M 1/6W J	1
R170	13-15531-012	RES CARB 1.5M 1/6W J	1
R171	13-33431-012	RES CARB 330K 1/6W J	1
R172	13-18432-012	RES CARB 180K 1/4W J	1
R173	13-18432-012	RES CARB 180K 1/4W J	1
R174	13-22331-012	RES CARB 22K 1/6W J	1
R175	13-22331-012	RES CARB 22K 1/6W J	1
R176	13-22331-012	RES CARB 22K 1/6W J	1
R177	13-22331-012	RES CARB 22K 1/6W J	1
R178	13-22331-012	RES CARB 22K 1/6W J	1
R179	13-22331-012	RES CARB 22K 1/6W J	1
R180	13-22331-012	RES CARB 22K 1/6W J	1
R181	13-22331-012	RES CARB 22K 1/6W J	1
R182	13-22331-012	RES CARB 22K 1/6W J	1
R183	13-68131-012	RES CARB 680 1/6W J	1
R184	13-68131-012	RES CARB 690 1/6W J	1
R185	13-68131-012	RES CARB 680 1/6W J	1
R186	13-47231-012	RES CARB 4K7 1/6W J	1
R187	13-47231-012	RES CARB 4K7 1/6W J	1
R188	13-22331-012	RES CARB 22K 1/6W J	1
R190	13-22231-012	RES CARB 2K2 1/6W J	1
R191	13-56331-012	RES CARB 1K2 1/6W J	1
R193	13-10931-012	RES CARB 1 OHM 1/6W J	1
R199	13-56331-012	RES CARB 56K 1/6W J	1
R301	13-82131-012	RES CARB 820 1/6W J	1
R302	13-10331-012	RES CARB 10K 1/6W J	1
R303	13-15231-012	RES CARB 1K5 1/6W J	1
R304	13-15231-012	RES CARB 1K5 1/6W J	1
R305	13-39131-012	RES CARB 390 1/6W J	1
R306	13-39131-012	RES CARB 390 1/6W J	1
R307	13-10331-012	RES CARB 10K 1/6W J	1
R308	13-10331-012	RES CARB 10K 1/6W J	1
R309	13-47231-012	RES CARB 4K7 1/6W J	1
R310	13-47231-012	RES CARB 4K7 1/6W J	1
R311	13-10431-012	RES CARB 100K 1/6W J	1

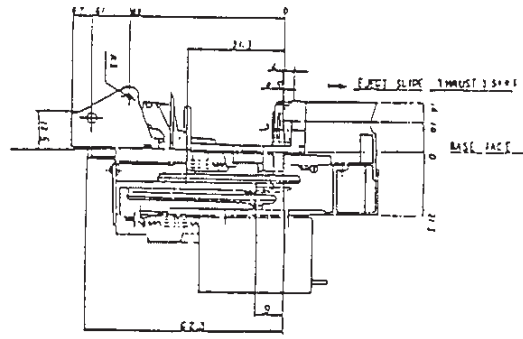
REFERENCE	PART NO.	DESCRIPTION	QTY.
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R312	13-10431-012	RES CARB 100K 1/6W J	1
R313	13-56231-012	RES CARB 5K6 1/6W J	1
R314	13-56231-012	RES CARB 5K6 1/6W J	1
R315	13-68231-012	RES CARB 6K8 1/6W J	1
R316	13-68231-012	RES CARB 6K8 1/6W J	1
R317	13-12331-012	RES CARB 12K 1/6W J	1
R318	13-12331-012	RES CARB 12K 1/6W J	1
R319	13-10331-012	RES CARB 10K 1/6W J	1
R320	13-10331-012	RES CARB 10K 1/6W J	1
R321	13-10431-012	RES CARB 100K 1/6W J	1
R322	13-10431-012	RES CARB 100K 1/6W J	1
R323	13-10231-012	RES CARB 1K 1/6W J	1
R324	13-10231-012	RES CARB 1K 1/6W J	1
R325	13-22231-012	RES CARB 2K2 1/6W J	1
R326	13-22231-012	RES CARB 2K2 1/6W J	1
R327	13-47032-012	RES CARB 47 1/6W J	1
R329	13-10531-012	RES CARB 1M 1/6W J	1
R330	13-10531-012	RES CARB 1M 1/6W J	1
X101	24-31693-100	CRYSTAL 16.9344MHz	1
X102	24-30400-00	CER OSC 4MHz	1

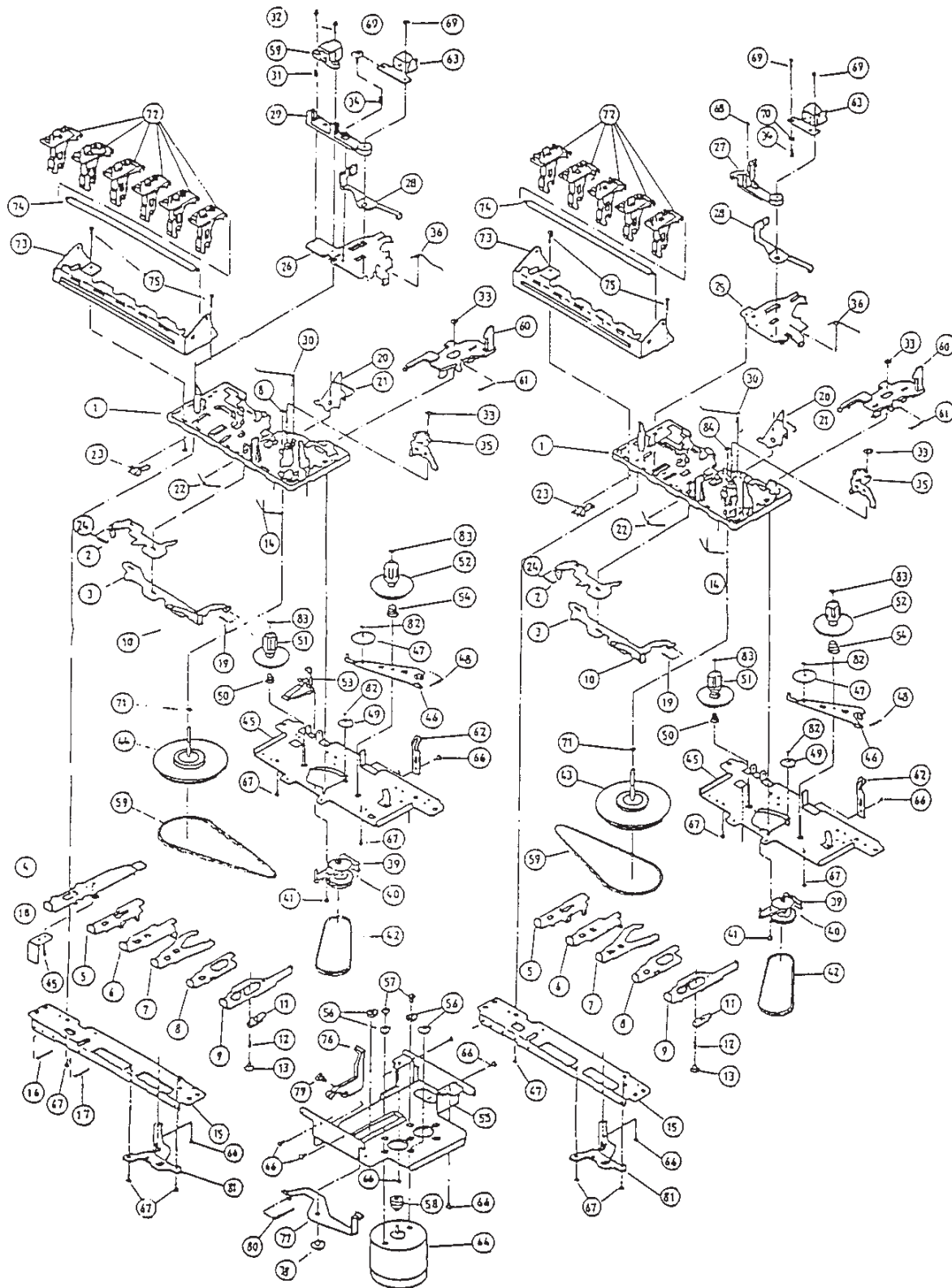
EXPLODED VIEW / PARTS LIST (CD)



CD parts are not available separately. If a part needs replacing, order a complete CD Assembly. (Part No.6202150.468. CD90V1-JPN)

REF NO.	PART NUMBER	DESCRIPTION
1	0-A41A-031-00	PICK UP ASSY (SF-91P)
2	4-S13A-008-00	LIMIT SW
3	4-M10A-021-00	MOTOR
4	4-M10A-020-00	SPINDLE MOTOR
5	0-311A-022-00	CHASSIS ASSY
6	4-B10A-535-00	MOTOR / SW PCB
7	2-511A-063-00	GEAR MIDDLE
8	2-511A-064-00	GEAR MOTOR
9	2-511A-065-00	GEAR POWER
10	2-731A-014-00	PLATE RACK
11	2-362A-004-00	GUIDE BAR
12	2-362A-005-00	GUIDE BAR
13	0-541A-003-00	TURNTABLE ASSY
14	SE3PN172R5SE	SCR PAN PCS 1.7 X 2.5
15	SE1FN205ROSE	SCR FLT PCS 2 X 5
16	SFXEA01800	SPECIAL SCREW
17	4-2369-750-0	CONNECTOR 6P





PARTS LIST

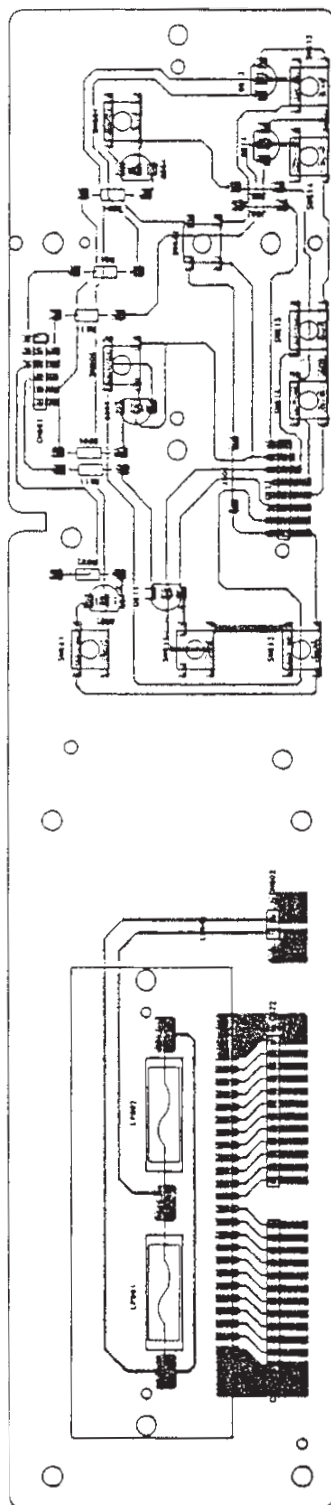
NO.	PARTS NO.	PARTS NAME	Q'TY	NO.	PARTS NO.	PARTS NAME	Q'TY
1.	A-14	MAIN BASE ASS'Y	2	51.	A-06	S REEL ASS'Y	2
2.	A-1003-0	SWITCH PLATE	2	52.	A-07	TAKE UP REEL ASS'Y	2
3.	A-1026-0	PUSH BUTTON ACTUATOR	2	53.	A-3017-0	REC. SAFETY LEVER	1
4.	A-1005-0	REC. BUTTON LEVER (F)	1	54.	A-6016-0	BACK TENSION SP. (R)	2
5.	A-1006-0	PLAY BUTTON LEVER (F)	2	55.	A-1017-0V	MOTOR BRACKET (VA)	1
6.	A-1007-0	REV. BUTTON LEVER (F)	2	56.	A-4002-0	MOTOR CUSHION	3
7.	A-1008-0	FF. BUTTON LEVER (F)	2	57.	A-8003-0	MOTOR COLLAR SCREW	3
8.	A-1009-0	STOP/EJECT LEVER (F)	2	58.	A-3018-W20	MOTOR PULLEY 2x7	1
9.	A-03F	PAUSE BUTTON LEVER ASS'Y	2	59.	ME-136X	E. HEAD	1
10.	A-1027-0	EJECT PUSH LEVER	2	60.	A-3019-0F	EJECT SLIDE LEVER (F)	2
11.	A-3009-0	PAUSE CAM	2	61.	A-6005-0	EJECT LEVER SP.	2
12.	A-6001-0	PAUSE LEVER SP	2	62.	A-1018-0F	PACK SPRING (FA)	2
13.	A-3010-0	PAUSE STOPPER	2	63.	S-201	R/P HEAD	2
14.	A-6003-0	BUTTON LEVER SP. (B)	2	64.	6H2LWSK	MOTOR	1
15.	A-1002-1	SUB CHASSIS	2	65.	TP-2030	TP M2x3 SCREW	1
16.	A-6017-0	REC. BUTTON LEVER SP.	1	66.	TP-2040	TP M2x4 SCREW	10
17.	A-6004-0	PLAY BUTTON LEVER SP.	1	67.	TB-2050	TB M2x5 SCREW	10
18.	A-1031-0	REC. PACK SPRING 14mm	1	68.	IO-2060	IO M2x6 SCREW	1
19.	A-6006-0	ACTUATOR PLATE SP.	2	69.	IO-2070	IO M2x7 SCREW	4
20.	A-1013-0	AUTO STOP LEVER	2	70.	WASHER-0	2.1x5x0.4t	2
21.	A-6007-0	AUTO STOP LEVER SP.	2	71.	WASHER-A	2.1x3.8x0.35t	2
22.	A-6002-0	BUTTON LEVER SP. (A)	2	72.	A-3020-0	KNOB	12
23.	21-01-023A	LEAF SWITCH	2	73.	A-1023-0F	BUTTON HOLDER (F)	2
24.	A-6008-0	SWITCH ACTUATING PLATE SP.	2	74.	A-2006-0F	BUTTON SHAFT (FA)	2
25.	A-1014-1	HEAD PLATE (B)	1	75.	TH-2070	TH M2x7 SCREW	4
26.	A-1014-0	HEAD PLATE (A)	1	76.	A-3026-0	DUBBING ACTUATING PLATE	1
27.	A-3012-0	HEAD BASE (B)	1	77.	A-1028-0	CHANGE LEVER	1
28.	A-05	SENSING LEVER ASS'Y	2	78.	A-8004-0	P.K. COLLAR SCREW (A)	1
29.	A-3011-0	HEAD BASE (A)	1	79.	A-8007-0	P.K. COLLAR SCREW (B)	1
30.	A-6010-0	HEAD BASE SP.	2	80.	A-6019-0	CHANGE LEVER SP.	1
31.	A-6021-0	E. HEAD SP.	1	81.	A-1012-0	FLYWHEEL BRACKET	2
32.	IO-2080	IO M2x8 SCREW	2	82.	WASHER-D	1.2x3x0.188t (cut)	4
33.	TF-2035	TF M2x3.5 SCREW	4	83.	WASHER-D1	1.2x3x0.25t	4
34.	A-6011-0	AZIMUTH SP.	2	84.	WASHER-E	1.6x3.8x0.4t (cut)	2
35.	A-04	PINCH ROLLER ARM ASS'Y	2	85.			
36.	A-6012-0	PINCH ROLLER SP.	2	86.			
37.				87.			
38.				88.			
39.	A-09	RF PULLEY ARM ASS'Y	2	89.			
40.	A-6013-0	RF PULLEY ARM SP.	2	90.			
41.	A-8002-0	RF ARM COLLAR SCREW	2	91.			
42.	A-4001-0A	RF BELT 30.5x0.8x0.8	2	92.			
43.	A-11	FLYWHEEL ASS'Y (D)	1	93.			
44.	A-10	FLYWHEEL ASS'Y (C)	1	94.			
45.	A-02	REEL CHASSIS ASS'Y	2	95.			
46.	A-01	TAKE GEAR PLATE ASS'Y	2	96.			
47.	A-3013-0	TAKE ROLLER GEAR	2	97.			
48.	A-6014-0	TAKE GEAR PLATE SP.	2	98.			
49.	A-3014-0	FF. GEAR	2	99.			
50.	A-6015-0	BACK TENSION SP. (L)	2	100.			
				101.			
				102.			
				103.			

CD PARTS LIST

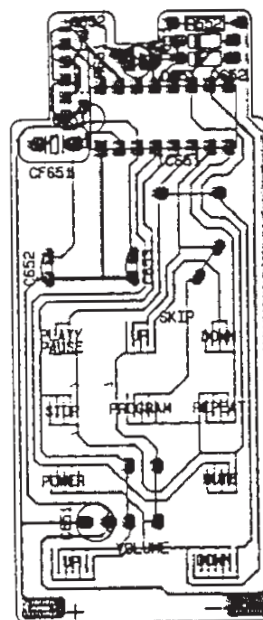
REFERENCE	PART NO.	DESCRIPTION	QTY.
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C101	09-47619-055	CAP ELE 47U 16V M	1
C102	08-10224-133	CAP CER 1000P 50V K	1
C103	09-10711-055	CAP ELE 100U 10V M	1
C104	09-47619-055	CAP ELE 47U 16V M	1
C105	08-02074-133	CAP CER 2P 50V C	1
C106	08-12034-133	CAP CER 12P 50V J	1
C107	09-47414-055	CAP ELE 0.47U 50V M	1
C108	08-33124-133	CAP CER 330P 50V K	1
C111	08-10314-133	CAP CER 0.01U 50V M	1
C112	09-10619-055	CAP ELE 10U 16V M	1
C113	08-10314-133	CAP CER 0.01U 50V M	1
C114	09-10619-055	CAP ELE 10U 16V M	1
C115	08-22394-133	CAP CER 0.022U 50V Z	1
C116	09-10711-055	CAP ELE 100U 10V M	1
C117	09-10711-055	CAP ELE 100U 10V M	1
C118	08-22394-133	CAP CER 0.022U 50V Z	1
C119	08-10224-133	CAP CER 1000P 50V K	1
C122	11-15324-023	CAP MLY 0.015U 50V K	1
C123	11-18234-023	CAP MLY 0.018U 50V K	1
C124	11-33324-023	CAP MLY 0.033U 50V K	1
C125	09-10619-145	CAP ELE 10U 16V M NP	1
C126	09-10711-055	CAP ELE 100U 10V M	1
C127	11-47324-023	CAP MLY 0.04U 50V K	1
C126	11-33324-023	CAP MLY 0.033U 50V K	1
C129	11-47324-023	CAP MLY 0.047U 50V K	1
C130	09-10619-055	CAP ELE 10U 16V M	1
C131	08-68224-133	CAP CER 6800P 50V K	1
C132	08-22124-133	CAP CER 220P 50V K	1
C133	09-10711-055	CAP ELE 100U 10V M	1
C134	08-22394-133	CAP CER 0.022U 50V Z	1
C135	08-33394-133	CAP CER 0.033U 50V Z	1
C136	08-10224-133	CAP CER 1000P 50V K	1
C137	08-47124-133	CAP CER 470P 50V K	1
C138	08-33394-133	CAP CER 0.033U 50V Z	1
C139	08-12034-133	CAP CER 12P 50V J	1
C140	08-12034-133	CAP CER 12P 50V J	1
C141	11-33224-023	CAP MLY 3300P 50V K	1
C142	08-10124-133	CAP CER 100P 50V K	1
C143	09-33414-145	CAP ELE 0.33U 50V M NP	1
C144	11-33324-023	CAP MLY 0.033U 50V K	1
C145	09-33619-055	CAP ELE 33U 16V M	1
C147	08-22394-133	CAP CER 0.022U 50V Z	1
C148	09-10711-055	CAP ELE 100U 10V M	1
C149	09-10811-055	CAP ELE 1000U 10V M	1
C150	08-10224-133	CAP CER 1000P 50V K	1
C153	09-47512-055	CAP ELE 4.7U 25V M	1
C154	09-10414-055	CAP ELE 0.1U 50V M	1
C155	08-10494-023	CAP CER 0.1U 50V Z	1
C156	08-10494-023	CAP CER 0.1U 50V Z	1
C157	08-10494-023	CAP CER 0.1U 50V Z	1

PCB LAYOUT TOP VIEW

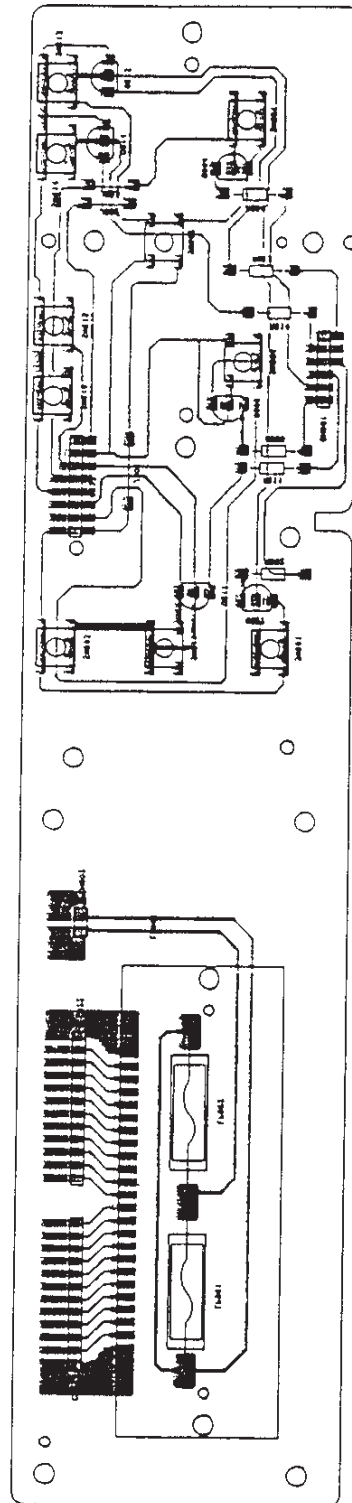
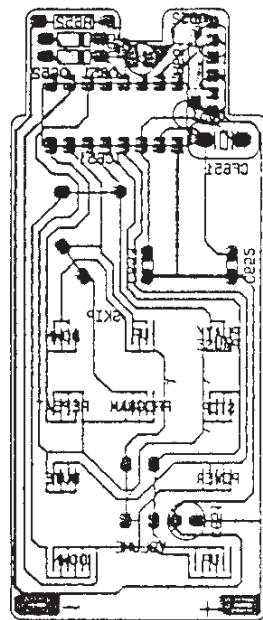
CD CTRL PCB



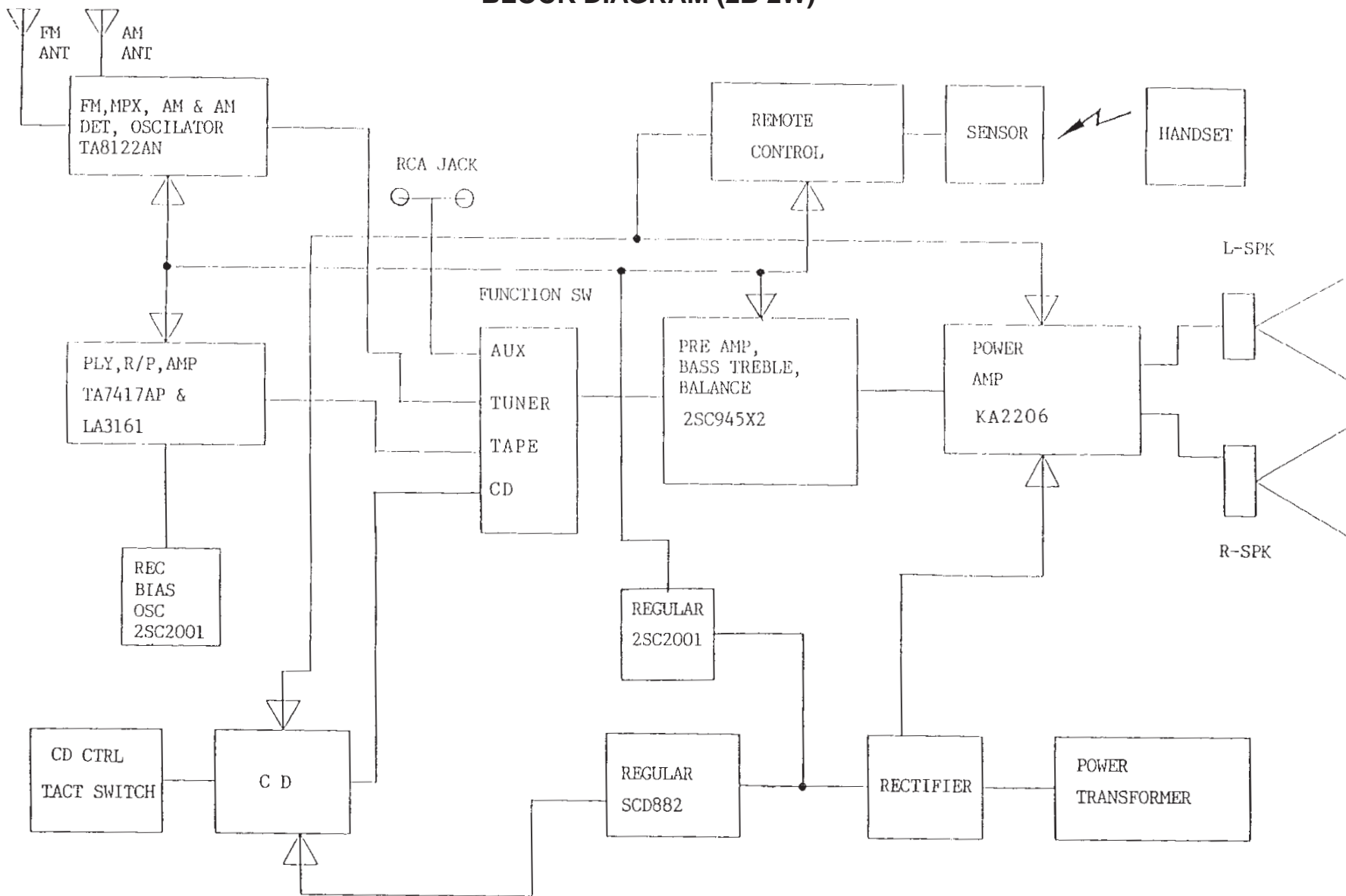
HANDSET PCB



CD CTRL PCB

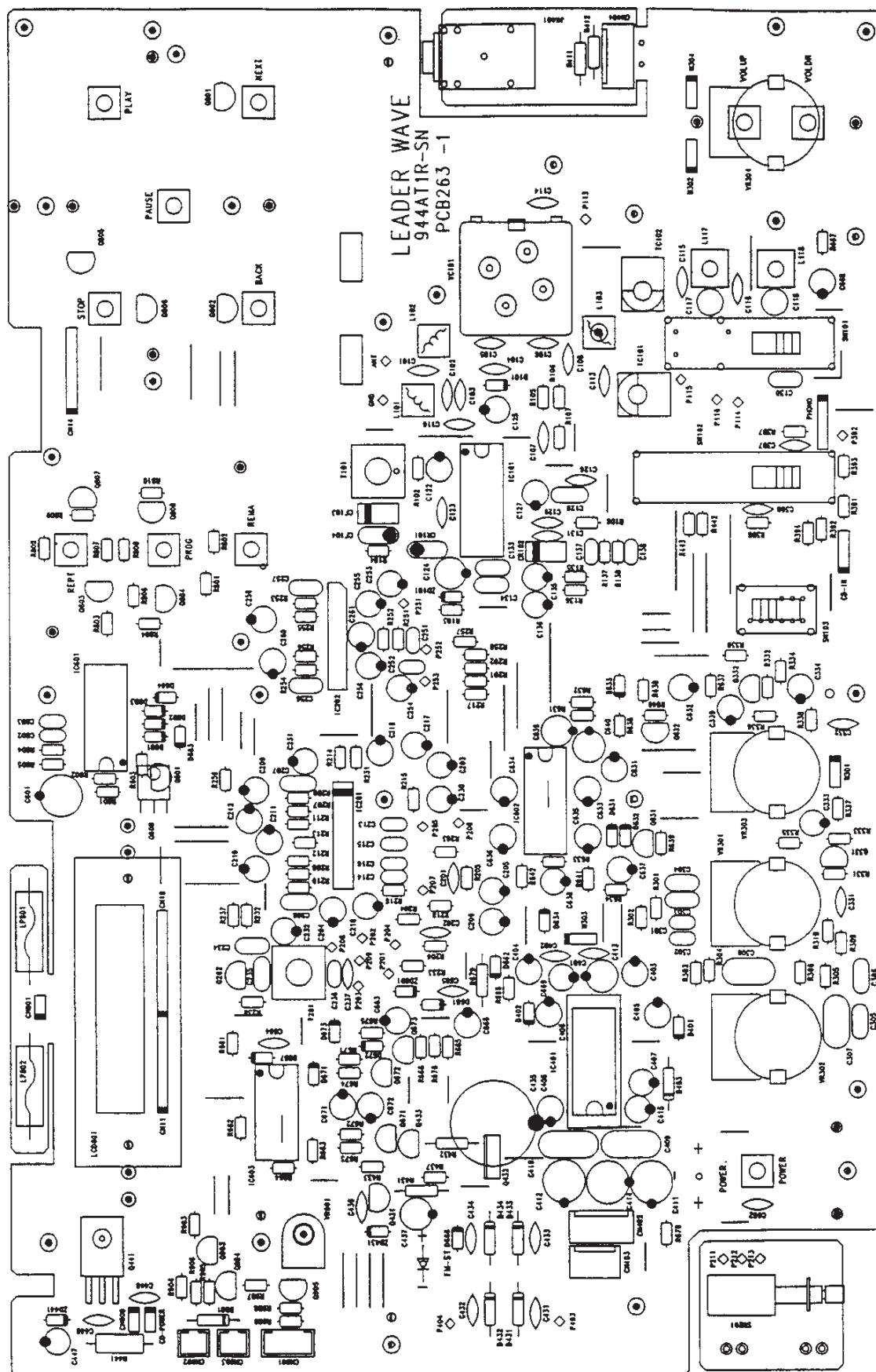


BLOCK DIAGRAM (2B 2W)

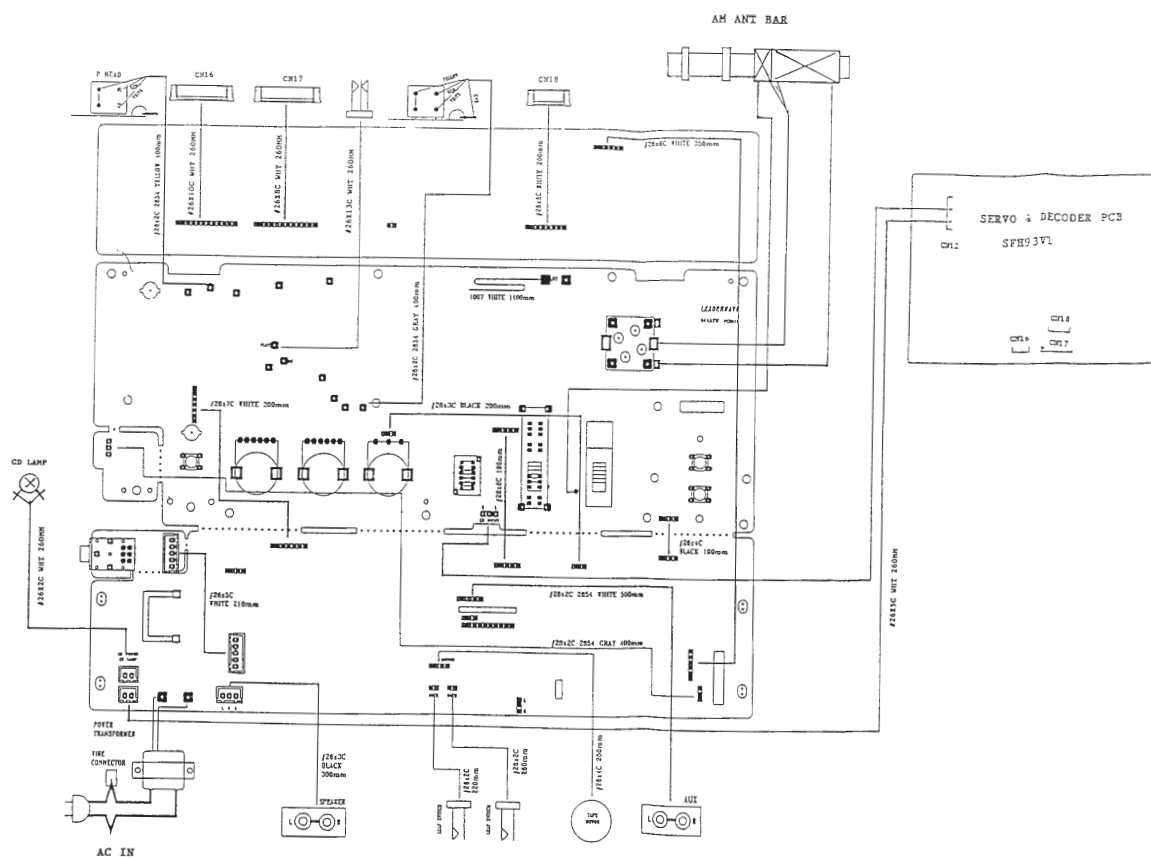


(2W) EXPLODED VIEW PARTS LIST

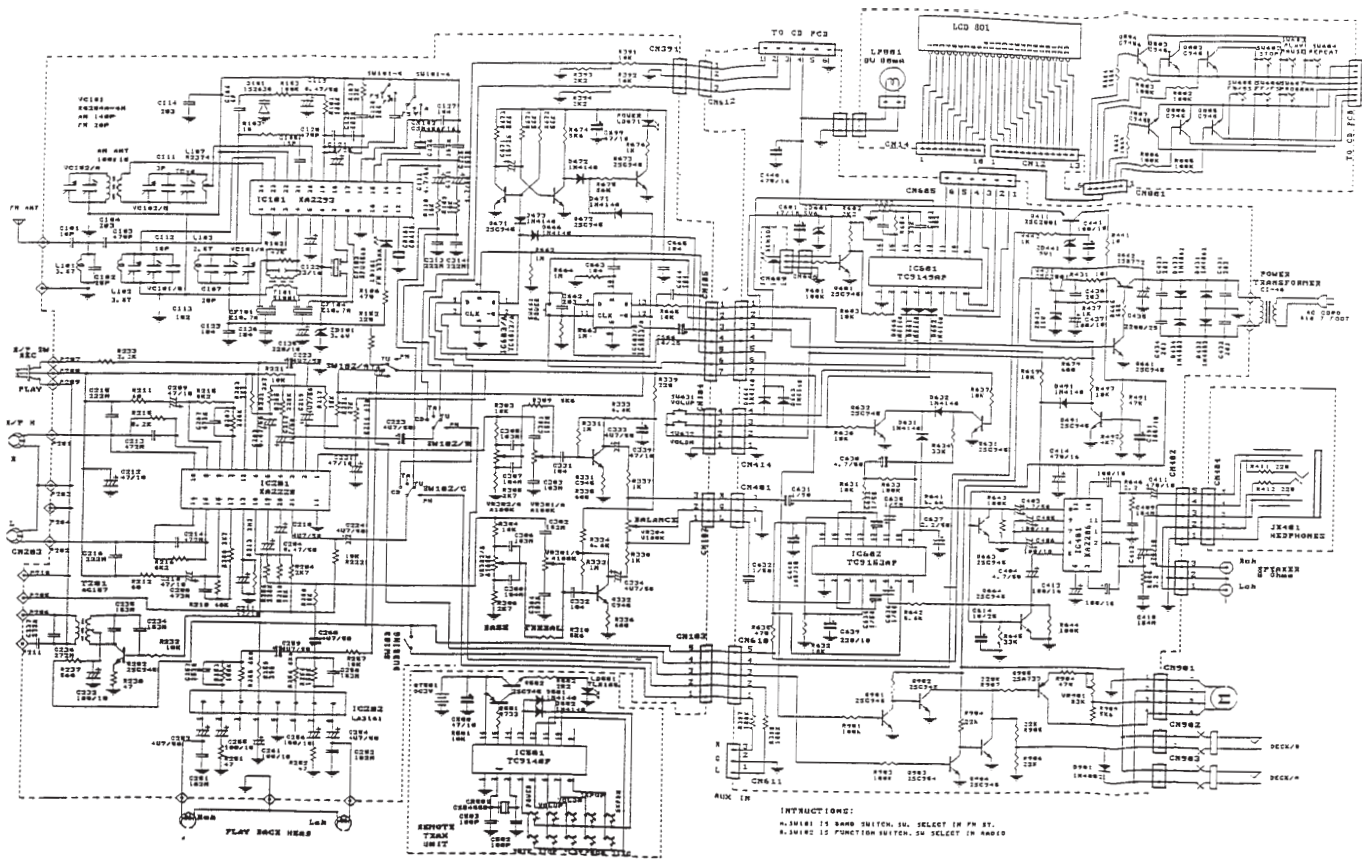
NO.	DESCRIPTION	QTY.	NO.	DESCRIPTION	QTY.
1	MAIN FRONT PANEL	1	46	SIDE BOARD (R)	4
2	CD CONTROL PANEL	1	47	CASS SPRING	1
3	CASS DOOR FRAME	2	48	CD SPRING	1
4	CASS DOOR PANEL (L)	1	49	BUBBER FOOT	4
5	CASS DOOR PANEL (R)	1	50	SPK JACK BOARD	1
6	CD KEY (3K)	1	51	AC CORD BUSHING	1
7	CD KEY (SK)	1	52	PVC WASHER	5
8	BAND KNOB "A"	1	53	PVC WASHER $\phi 14.5 \times \phi 6.5 \times 1.5$	1
9	BAND KNOB "B"	1	54	PLASITC WASHER	1
10	BAND KNOB "C"	1	55	SIDE BOARD (L)	1
11	VOLUM KNOB	1	56	BOTTOM BOARD	1
12	POWER KNOB	1	57	BACK BOARD	1
13	TREBLE BALANCE KNOB "A"	2	58	MAIN P.C.B.	1
14	BASS KNOB "B"	1	59	CD PCB	1
15	TUNING KNOB	1	60	SENSOR	1
16	POINTER BELT	1			
17	TUNING GEAR "A"	1	62	EAR PHONE	1
18	TUNING GEAR "B"	1	63	CD LAMP P.C.B.	1
19	TUNING GEAR "C"	1	64	YELLOW PVC FILM	1
20	CD LENS	1	65	LCD DISPLAY	1
21	TUNING LENS	1	66	ANTENNA BAR ASS'Y	1
22	CASS LENS "L"	1	67	TRANSFORMER	1
23	CASS LENS "R"	1	68	BEAT CUT SWITCH	1
24	LCD HOLDER	1			
25	DECK BUTTON	11	70	TAPE DECK	1
26	DAMPER GEAR ASS'Y	2	71	DECK BUTTON	2
27	SIDE BOARD WASHER	6	72	CD P.C.B.	1
		1	73	ANTI CD RADIO ACTIVE PLATE	1
29	CD BASE	1	74	IRON PLATE	1
30	CD COVER	1	75	CD DECK	1
31	CD COVER LENS	1	76	SCHOCK BREAKER RUBBER	4
32	CD PUSH BUTTON	1	77	SCHOCK BREAKER WASHER	4
33	CD LATCH	1	78	SCREW PWM 3x8	11
34A	DISC CLAMP A	1	79	SCREW PT 3x10	36
34B	CD DISC HOLDER	1	80	SCREW PT 3x8	9
34C	MAGNET	1	81	SCREW PT 2x7	2
34D	DISC CLAMP B	1	82	SCREW PWA 3x10	14
35	CD PICK UP COVER	1	83	SCREW PWM 3x10	13
			84	SCREW PWM 4x12	4
37	LEAF SWITCH	1	85	SCREW TA 3.5x14	6
38	REC SPRING	1	86	SCREW KM 2.5x6	1
39	TRANSFORMER BRACKET	4	87	SCREW PM 2x3	1
40	PCB HOLDER "L"	1	88	SCREW PT $\phi 2.6 \times 4$	1
41	PCB BRACKET "R"	1	89	SCREW KT 2x6	2
42	FLASH MOUNT BRACKET	15	90	SCREW TT 2x6	6
43	METAL WASHER	1	91	CD SPECIAL SCREW	4
		1	92	NUT $\phi 3$	3



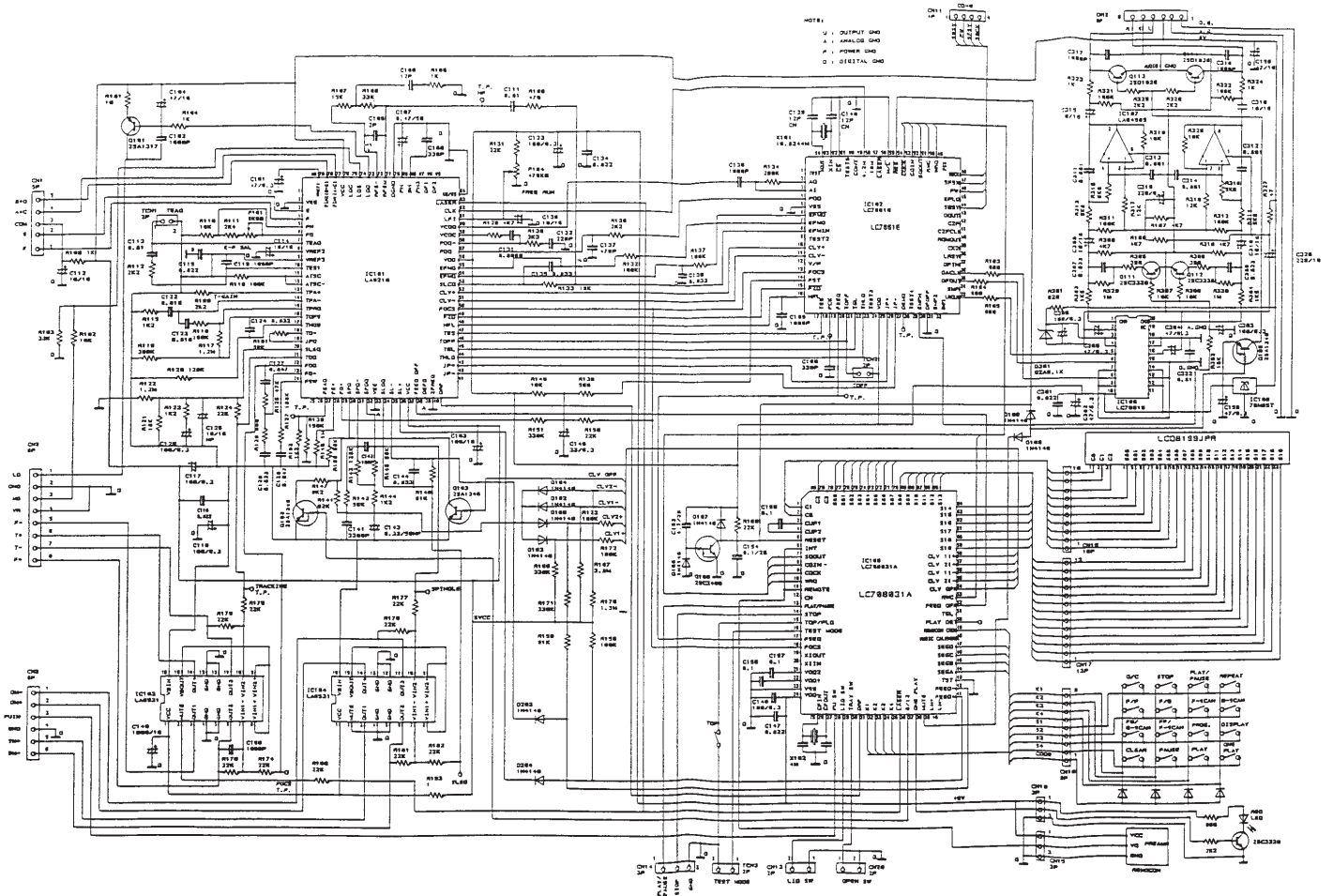
WIRING DIAGRAM

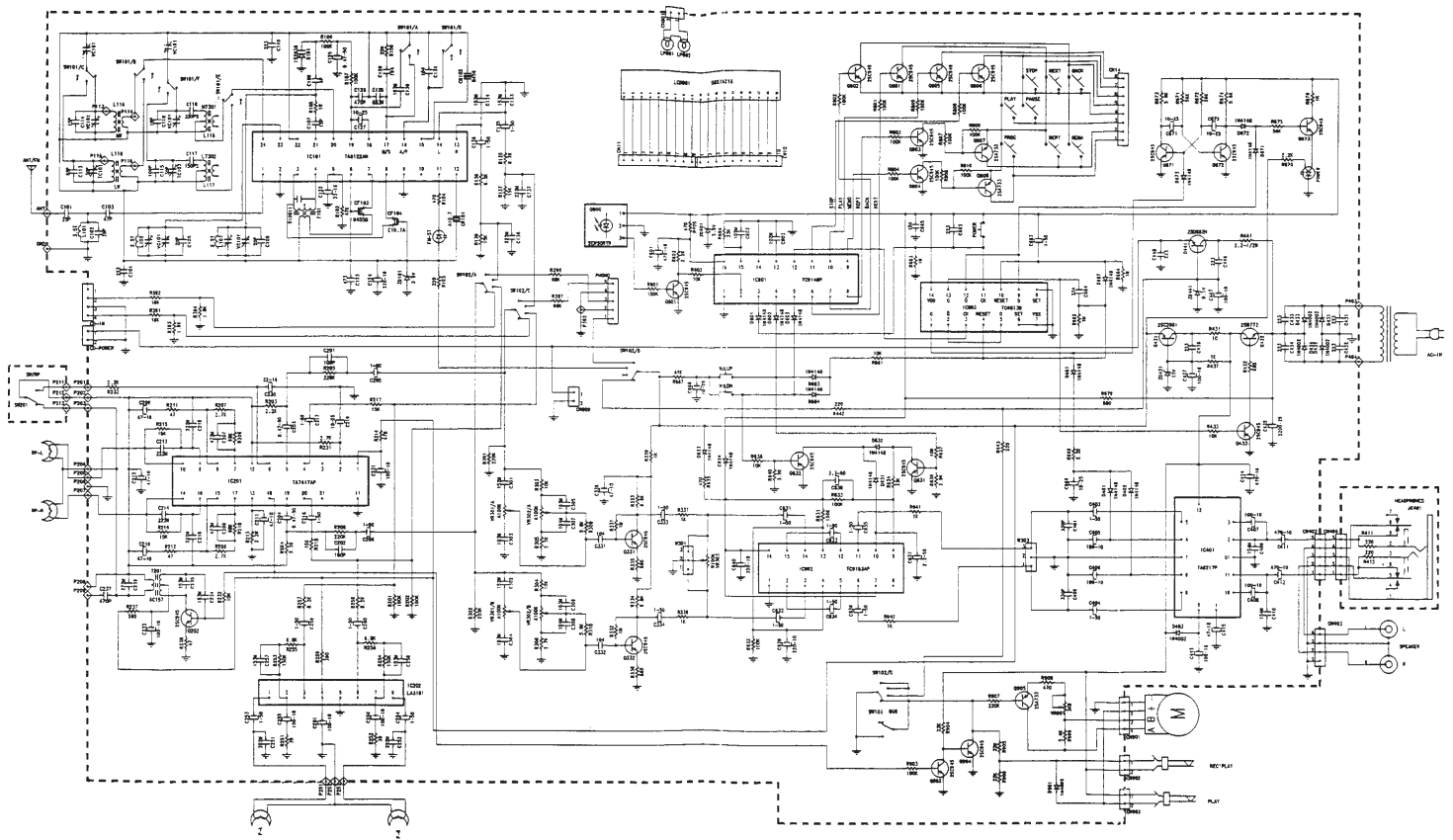


SCHEMATIC DIAGRAM (2 BAND 2W)

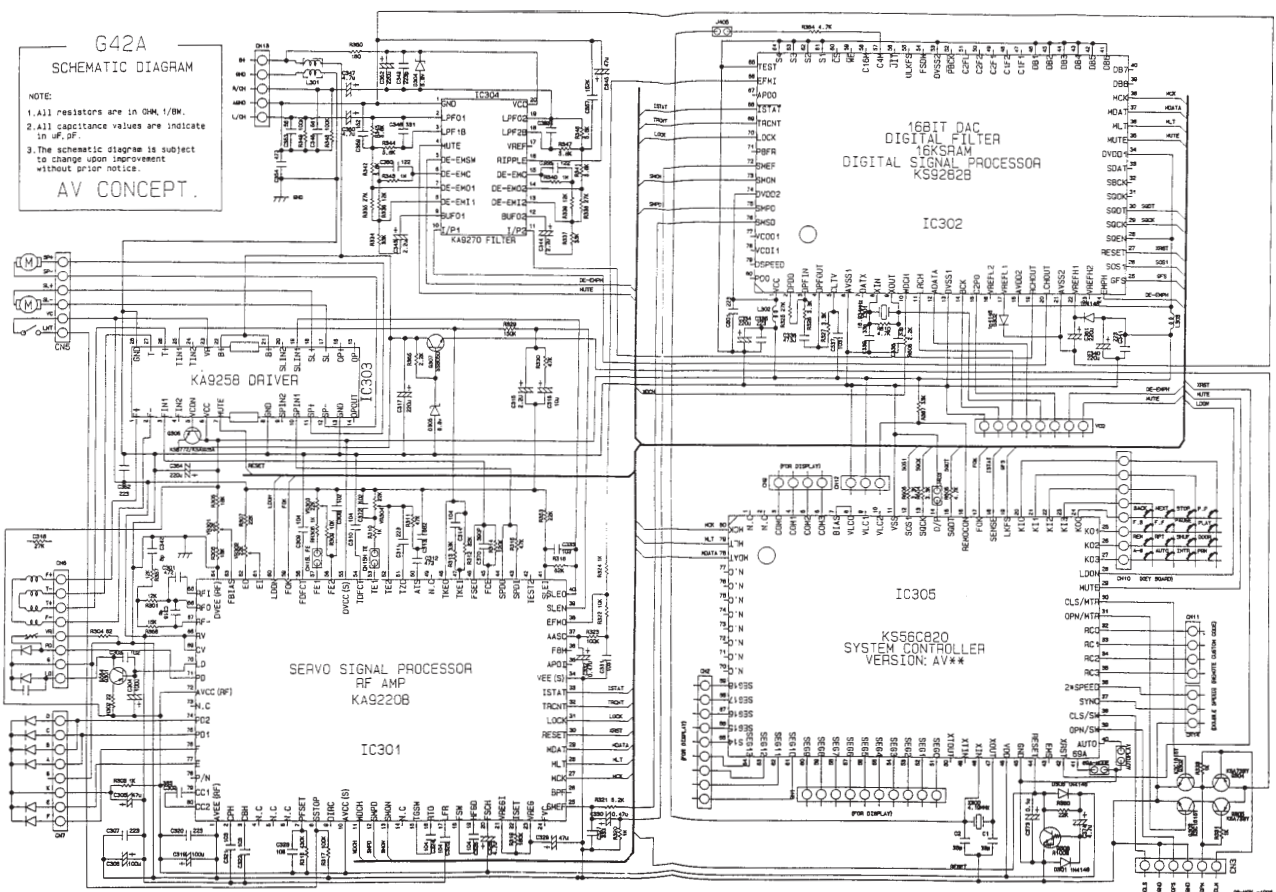


CD PLAYER





SCHEMATIC DIAGRAM



EXPLODED VIEW (CABINET)

